

**MODIFICATION OF COLUMN FIXED PATTERN COLUMN NOISE IN
SOLID STATE IMAGE SENSORS**

Abstract of the Disclosure

Solid state image sensors, and methods of operation thereof, includes an array of photosensitive pixels arranged in rows and columns and in which pixel data signals are read out from the pixels via column circuits, which introduces column fixed pattern noise to the signals. The signals are selectively inverted at the inputs to the column circuits and the inversion is reversed following output from the column circuits.

Each column circuit may include an analog-to-digital converter and a digital inverter for inverting digital output therefrom. The selective inversion may be applied to alternate rows or groups of rows of the pixel data, and may be applied differently to different frames of the pixel data. These techniques result in column fixed pattern noise being modulated in a manner which makes the noise less apparent to the eye, and which facilitates subsequent cancellation of the noise.